

# Powder Actuated Fastening Systems

WAC 296-807-150

## Summary

### YOUR RESPONSIBILITY:

**Make sure powder actuated fastening systems are used safely**

### Important:

This section applies to any powder actuated fastening system designed to use the expanding gases from a powder load to propel a stud, pin, fastener, or other object into hard structural material.



#### Exemption:

This section doesn't apply to:

- Devices designed to attach objects to soft construction material such as wood, plaster, tar, and dry wallboard
- Stud welding equipment.

### You must

#### TOOL OPERATORS

Make sure tool operators are qualified  
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#### PERSONAL PROTECTIVE EQUIPMENT

Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)  
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# Powder Actuated Fastening Systems

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## Summary

### WAC 296-807-150 (Continued)

#### TOOL DESIGN AND CONSTRUCTION

Make sure tools are adequately designed and constructed

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#### LABELING

Make sure tools and containers are properly labeled

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#### POWDER LOADS

Make sure powder loads and power levels are properly identified

WAC 296-807-15025 ..... 150-8

Use proper powder loads

WAC 296-807-15030 ..... 150-9

#### TOOL USE

Make sure the tool is appropriate to the job

WAC 296-807-15035 ..... 150-9

Make sure the operator uses the tool safely

WAC 296-807-15040 ..... 150-10

#### FASTENERS

Use fasteners safely

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## Summary

### WAC 296-807-150 (Continued)

#### INSPECTION AND MAINTENANCE

Inspect and maintain tools properly  
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#### STORAGE

Make sure tools are stored properly  
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# Powder Actuated Fastening Systems

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## Rule

### TOOL OPERATORS

#### WAC 296-807-15005

#### Make sure tool operators are qualified

##### You must

- Make sure tools are used only by qualified operators
- Make sure operators have been trained by an authorized instructor.



##### Note:

Authorized instructors have to meet the instructor qualifications of ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.

##### You must

- Make sure all tool operators can:
  - Understand the manufacturer's instructions
  - Clean the tool properly
  - Recognize any visibly worn or damaged parts
  - Identify power load levels
  - Operate the tool correctly.
- Make sure tool operators have a valid qualified operator's card in their possession when they are using the tool.



# Powder Actuated Fastening Systems

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## Rule

### PERSONAL PROTECTIVE EQUIPMENT

#### WAC 296-807-15010

**Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)**

#### You must

(1) Make sure eye or face protection is worn by:

- Tool operators
- Assistants
- Persons close to where the tool is being used.

#### You must

(2) Post signs where tools are being used and in adjacent areas where tool use could pose a hazard. Signs must:

- Be easily seen
- Be at least 8 x 10 inches (20 x 25 cm)
- Use letters in boldface type at least one inch (2.5 cm) high
- Read "POWDER ACTUATED TOOL IN USE" or similar wording.



#### Note:

Tool use could create a hazard in adjacent areas by allowing a fastener to penetrate one or more of the following:

- Wall
- Floor
- Other working surface.

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# Powder Actuated Fastening Systems

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## Rule

### TOOL DESIGN AND CONSTRUCTION

#### WAC 296-807-15015

#### **Make sure tools are adequately designed and constructed**

#### **You must**

- (1) Make sure the tool meets the design and construction requirements of the American National Standards Institute (ANSI) standard, ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.



#### **Note:**

There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

#### **You must**

- (2) Make sure each tool has:
  - Operator instructions and a tool service manual
  - Powder load and fastener chart
  - Service tools and accessories.



# Powder Actuated Fastening Systems

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## Rule

### LABELING

#### WAC 296-807-15020

#### Make sure tools and containers are properly labeled

#### You must

##### (1) Make sure tools are properly labeled.

- Make sure each tool has a readable, permanent label that shows the manufacturer's:
  - Model number
  - Unique serial number.
- Make sure there is a durable warning label on each tool that:
  - Reads "WARNING - FOR USE ONLY BY QUALIFIED OPERATORS ACCORDING TO MANUFACTURER'S INSTRUCTION MANUAL"

#### OR

- Uses words with the same meaning.

##### (2) Make sure the tool storage container has these labels:

- "POWER ACTUATED TOOL" on the outside of the container in an easily seen position
- "WARNING - POWDER ACUATED TOOL TO BE USED ONLY BY A QUALIFIED OPERATOR AND KEPT UNDER LOCK AND KEY WHEN NOT IN USE" on the inside cover.

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# Powder Actuated Fastening Systems

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## Rule

### POWDER LOADS


WAC 296-807-15025

**Make sure powder loads and power levels are properly identified**

#### You must

- Make sure powder loads and power levels are identified as specified in Table 3, Powder-Load Identification.

**Table 3**  
**Powder-Load Identification**

| Lowest level  | Power level   | Color Identification |            |
|---|---------------|----------------------|------------|
|   |               | Case Color           | Load Color |
|  | 1             | Brass                | Gray       |
|   | 2             | Brass                | Brown      |
|   | 3             | Brass                | Green      |
|   | 4             | Brass                | Yellow     |
|   | 5             | Brass                | Red        |
|   | 6             | Brass                | Purple     |
|   | 7             | Nickel               | Gray       |
|   | 8             | Nickel               | Brown      |
|   | 9             | Nickel               | Green      |
|   | 10            | Nickel               | Yellow     |
|   | 11            | Nickel               | Red        |
|   | Highest Level | 12                   | Nickel     |



# Powder Actuated Fastening Systems

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## Rule

### WAC 296-807-15030

#### Use proper powder loads

##### You must

- Use only a powder load that is:
  - Recommended by the tool manufacturer for the particular tool**OR**
  - One that provides the same level of safety and performance.

### TOOL USE

### WAC 296-807-15035

#### Make sure the tool is appropriate to the job

##### You must

- (1) Use the lowest velocity class of tool and load that will properly set the fastener.
- (2) Use the proper shield, fixture, adaptor, or accessory that is:
  - Suitable for the job
  - Recommended and supplied by the manufacturer.

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# Powder Actuated Fastening Systems

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## Rule

WAC 296-807-15040

**Make sure the operator uses the tool safely**

### You must

- (1) Make sure the operator:
  - Inspects the tool before using it, as recommended by the tool manufacturer
  - Uses the tool according to the manufacturer's instructions
  - Keeps the tool unloaded until just before using it
  - Unloads the tool at once if work is interrupted after the tool has been loaded
  - Doesn't leave a tool or powder load unattended where it would be available to an unauthorized person
  - Never points a tool (loaded or unloaded) at any part of a person's body.



**Note:**

A magazine or clip fed tool isn't considered loaded until a powder load is actually in the ram (firing chamber).

### You must

- (2) Make sure tools aren't used in an explosive or flammable atmosphere.
- (3) Do this if the tool misfires:
  - Hold it firmly against the work surface for 30 seconds

**THEN**

  - Follow the instructions in the tool manufacturer's instruction manual.
- (4) Hold the tool perpendicular to the work surface when fastening to any material.



**Exemption:**

This doesn't apply if the tool manufacturer recommends a different technique for a specific job.



# Powder Actuated Fastening Systems

WAC 296-807-150

## Rule

### FASTENERS

#### WAC 296-807-15045

#### Use fasteners safely

#### You must

##### (1) Use fasteners:

- Recommended by the tool manufacturer for the particular tool

#### OR

- Fasteners that provide the same level of safety and performance.

##### (2) Keep the fastener from passing completely through the structural material by using a backing material when driving a fastener into any material that is any of the following:

- Easily penetrated
- Thin
- Of questionable resistance.

##### (3) Make sure the material is suitable for fastening. Don't drive fasteners into very hard or brittle material such as:

- Cast iron
- Glazed tile
- Hardened steel
- Glass block
- Natural rock
- Hollow tile
- Most brick.

- Continued -

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# Powder Actuated Fastening Systems

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## Rule

### WAC 296-807-15045 (Continued)

#### You must

- (4) Make sure positive alignment with an existing hole is maintained by using a guide or other means supplied or recommended by the tool manufacturer before driving a fastener into the hole.



#### Helpful Tool:

#### Center Punch Test

A center punch test will help you determine if the material is suitable. You can find a copy of this form in the Resources section of this chapter.

#### You must

- (5) Make sure fasteners aren't driven into any spalled (chipped or crumbled) area.
- (6) Drive fasteners into concrete only if the fastener shank will penetrate no more than 1/3 the thickness of the concrete.
- (7) Make sure fasteners are driven at least:
  - 1/2 inch (13 mm) from the edge of steel
  - 3 inches (75 mm) from the unsupported edge of masonry material.



#### Exemption:

This doesn't apply if an application is specifically required or recommended by the tool manufacturer.



# Powder Actuated Fastening Systems

WAC 296-807-150

## Rule

### INSPECTION AND MAINTENANCE

#### WAC 296-807-15050

#### Inspect and maintain tools properly

##### You must

- Make sure any tool that isn't in proper working condition is:
  - Immediately removed from service
  - Tagged
  - Properly repaired as specified in the manufacturer's instructions before being used again.
- Regularly service the tool and inspect it for worn or damaged parts at intervals recommended by the tool manufacturer.
- Replace worn or damaged parts before the tool is used. This must be done:
  - By a qualified person
  - Using only parts supplied by the tool manufacturer.
- Keep a written record of inspection dates.

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# Powder Actuated Fastening Systems

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## Rule

### STORAGE

**WAC 296-807-15055**

**Make sure tools are stored properly**

#### You must

- (1) Make sure there is a container that can be locked for each tool.
- (2) Make sure tools and powder loads that aren't being used are:
  - Locked in a container
  - Stored in a safe place
  - Only available to authorized persons.
- (3) Store all manuals, maintenance tools, and accessories in the tool container when they aren't being used.

